

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
27 January 2005 (27.01.2005)

PCT

(10) International Publication Number
WO 2005/007719 A3

(51) International Patent Classification⁷: C08G 14/00, G03F 7/023

(74) Agents: TANAI, Sumio¹ et al.; 2-3-1, Yacsu, Chuo-ku, Tokyo 104-8453 (JP).

(21) International Application Number:
PCT/JP2004/010270

(22) International Filing Date: 13 July 2004 (13.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003-197873 16 July 2003 (16.07.2003) JP
2003-197874 16 July 2003 (16.07.2003) JP

(71) Applicant (for all designated States except US): TOKYO OHKA KOGYO CO., LTD. [JP/JP]; 150, Nakamaruko, Nakahara-ku, Kawasaki-shi, Kanagawa 211-0012 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): MASUDA, Yasuo [JP/JP]; c/o Tokyo Ohka Kogyo Co., Ltd., 150, Nakamaruko, Nakahara-ku, Kawasaki-shi, Kanagawa 211-0012 (JP). OKUI, Toshiaki [JP/JP]; c/o Tokyo Ohka Kogyo Co., Ltd., 150, Nakamaruko, Nakahara-ku, Kawasaki-shi, Kanagawa 211-0012 (JP).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

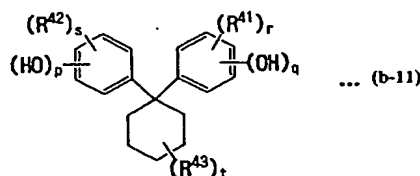
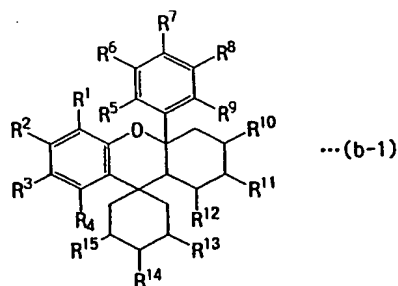
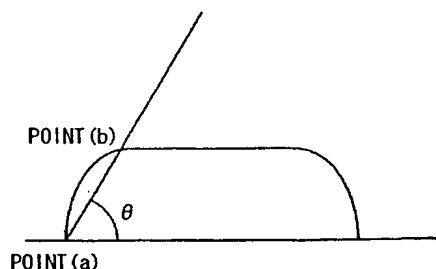
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: POSITIVE PHOTORESIST COMPOSITION AND METHOD OF FORMING RESIST PATTERN



(57) Abstract: There is provided a positive photoresist composition capable of forming a pattern with excellent resolution, excellent resistance to reflection off the substrate, and excellent perpendicularity. The positive photoresist composition comprises (A) an alkali-soluble novolak resin in which a portion of the hydrogen atoms of all the phenolic hydroxyl groups are substituted with 1,2-naphthoquinonediazidesulfonyl groups, and (B) a dissolution promoter represented by a general formula (b-1) and/or a general formula (b-11) shown below.

BEST AVAILABLE COPY